

MORTALITY FROM TOBACCO IN DEVELOPED COUNTIES:
INDIRECT ESTIMATION FROM NATIONAL VITAL STATISTICS
BY RICHARD PETO, ALAN D. LOPEZ, ET AL.

RESPONSE POINTS

The above article was recently published in the medical journal The Lancet (Vol. 339: 1268-1278, May 23, 1992). World-wide media attention headlined the claimed millions of deaths attributable to tobacco use as calculated by the authors. Extensive media attention had been previously given to these authors when they made similar claims at anti-tobacco conferences held in Perth, Western Australia, in 1990, and in Buenos Aires, Argentina, in 1992.

The editors of The Lancet, in an accompanying editorial (p. 1267), acknowledged the authors' admission that their calculations were "obviously crude," based as they were on numerous "assumptions." The "obviously crude" nature of their startlingly large numbers is also evident in the editors' comment that "these are approximations despite their apparent precision -- but one could lop a zero off some of them and still be impressed."

In addition, the editors also noted that the authors' computer-generated calculations were based on an American Cancer Society (ACS) study of the smoking habits of a million U.S. residents in 1982 and the mortality data for that same U.S.

2503007342

population in the ensuing years. The editors noted that the ACS study was "not a random sample of the U.S. population." In fact, that study presents mortality data for an affluent and relatively privileged segment of the U.S. population -- containing, for instance, twice to three times as many university graduates and only a third as many blacks as does the U.S. population. Nevertheless, the authors proceeded with their computer-generated calculations and the editors published the "crunching numbers," as questionable and uncertain as they might be.

The article is apparently a political document more nearly intended to influence decision-makers worldwide than to advance scientific knowledge. It is a highly questionable computer exercise which may or may not have any relevance to the "real world." Such calculations, using non-representative U.S. population study results as applied to other nationality populations, are, at best, highly suspect.

Some of the most obvious problems with The Lancet publication are:

- The article contains no data on the actual smoking habits of any of the decedents in the various disease categories reported in the study. The authors themselves acknowledge the "absence of direct information on smoking histories" and that "for the most developed countries large, nationally representative

2503007343

studies of smoking and mortality are not yet available." Simply stated, they did not know whether any of the deaths "attributed to smoking" actually occurred in individuals who at some time in their life smoked some type of tobacco product.

- The authors report but fail to discuss the striking and enormous differences in risks of dying among males aged 35-69 in Japan (shown in Fig. 1 of their article to have the lowest risk of death of any nation) compared to similarly aged males in eastern European and former USSR countries (shown in Fig. 1 to have the highest risk of death). Such differences are especially deserving of some explanatory comment when one considers that Japanese men are considered to be among the world's heaviest smoking populations. Rather than addressing this apparent paradox, the authors note only that "tobacco is not the only reason for the high male death rates in eastern Europe . . .".

- The authors, apparently concerned about the credibility of the startling number of deaths they calculated as "smoking attributed deaths," halved their excess deaths/risks figures and admitted that the procedure used was "obviously not a satisfactory" one.

- The authors, while giving apparent lip service to the shortcomings of their computer-generated calculations and acknowledging the uncertainties, lack of representative samples, problems

2503007344

with plausibility, etc., associated with their exercise, nonetheless proceed to make extrapolations to future decades, even as they admit that "the uncertainties in future predictions are greater than those in the current estimates."

• Calculations of excess deaths "attributable to" smoking have been the subject of scientific criticism over the years throughout the world. Such numbers have been referred to as "fanciful extrapolations" and as belonging "to the realm of fantasy."

One must question whether these authors' calculations are scientific facts or "fanciful extrapolations."